What is claimed is:

1.   A signal processing method comprising:

an overwriting step of overwriting an LUT written into a table storage area in accordance with the content of each of a plurality of processes executed to a first signal or a second signal; and

a synthesizing step of performing a process corresponding to the content of the overwritten LUT each time the content of the LUT in the table storage area is overwritten and synthesizing the first digital signal and the second digital signal.

2.   The signal processing method according to claim 1, wherein the synthesizing step comprises:

a step of writing a first LUT for gray-scale correction of the first signal into the table storage area;

a step of performing gray-scale correction on the first signal by using the first LUT for gray-scale correction written into the table storage area;

a step of overwriting the table storage area where the first LUT for gray-scale correction is written with the second LUT for gray-scale correction of the second signal;

a step of performing gray-scale correction on the second signal by using the second LUT for gray-scale correction written into the table storage area;

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a step of overwriting the table storage area where the second LUT for gray-scale correction is written with a weighting LUT for signal synthesis; and

a step of synthesizing the first signal and the second signal by using the weighting LUT for signal synthesis written into the table storage area.

3.   A signal processor circuit comprising:

a table storage area, which stores an LUT;

a table overwriter, which overwrites an LUT written into the table storage area with another LUT; and

a arithmetic operator, which performs arithmetic operation on a first digital signal or a second digital signal based on the LUT written into the table storage area each time an LUT is written into the table storage area and synthesizes the first digital signal and the second digital signal.

4.   The signal processor circuit according to claim 3, wherein the arithmetic operator performs gray-scale correction on the first digital signal by using an LUT for gray-scale correction of the first digital signal written into the table storage area,

performs gray-scale correction on the second signal by using an LUT for gray-scale correction of the second digital signal written into said table storage area, and

synthesizes the first digital signal and the second digital signal by using a weighting LUT for signal synthesis written into the table storage area.

5.   Imaging apparatus comprising:

an imaging element, which includes a plurality of first photoreceptor elements and second photoreceptor elements respectively having a first photoreceptive area and a second photoreceptive area having different sensitivities;

an A/D converter circuit, which performs A/D conversion on a first analog signal including a plurality of output signals output from the first photoreceptor devices and a second analog signal including a plurality of output signals output from the second photoreceptor devices to generate a first digital signal and a second digital signal; and

a signal processor circuit, which performs a plurality of processes on the first digital signal and the second digital signal to generate image data;

wherein the signal processor circuit comprises:

a table storage area, which stores an LUT;

a table overwriter, which overwrites an LUT written into the table storage area with another LUT; and

an arithmetic operator, which performs arithmetic operation on a first digital signal or a second digital signal based on the LUT written into the table storage area each time

an LUT is written into the table storage area and synthesizes the first digital signal and the second digital signal.

6.   The imaging apparatus according to claim 5, comprising
a controller, which generates the LUT based on the first digital signal or the second digital signal and

a memory, which stores the LUT generated by the controller, wherein the table overwriter writes the LUT stored in the memory into the table storage area.

7.   The imaging apparatus according to claim 5 or 6, wherein the LUTs are an LUT for gray-scale correction of the first digital signal, an LUT for gray-scale correction of the second digital signal and a weighting LUT for signal synthesis.

8.   The imaging apparatus according to claim 7, wherein the signal processor circuit performs gray-scale correction on the first digital signal by using an LUT for gray-scale correction of the first digital signal written into the table storage area,

performs gray-scale correction on the second signal by using an LUT for gray-scale correction of the second digital signal written into the table storage area, and

synthesizes the first digital signal and the second digital signal by using the weighting LUT for signal synthesis written into the table storage area.